THE ART

OF

MAKING AND MANAGING

CYDER;

DEDUCED FROM

Rational Principles and Actual Experience.

BY

ABRAHAM CROCKER,

M. S. A. &c.

..... " CYDER
" SHALL PLEASE ALL TASTES, AND TRIUMPH O'ER THE VINE."

PHILIPS.

BATH,

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PREFACE.

THE Writer of the following pages, having lived the beſt part of his life in a Cyder country, and having, from a long ſeries of obſervation on the practice of others, and from the reſult of his own procedure in the buſineſs of Cyder-Making, acquired a knowledge of the art was, ſome years ſince prevailed on to arrange the ſubſtance of that knowledge into a ſyſtematic form, and to communicate the ſame to a few particular Friends. Since which time he has the ſatisfaction of obſerving, that thoſe communications have been honoured with a place in the Tranſactions of the Philoſophical Society in America, as well as in a very popular provincial Agricultural Survey in his own country.

Thus

Thus honoured with a tacit approbation of the principles he had laid down, he has been induced to enlarge his ideas on the ſubject, and to ſubmit them to the public at large; under a hope, that his country may derive ſome advantage from ſuch communication.

He has not the vanity to ſuppoſe, that the principles contained in the preſent publication, are unknown to all Cyderiſts; but he feels confident that many of his readers will meet with various uſeful hints therein, which have hitherto eſcaped their attention: and that, by ſuch means, the art of Cyder-making may in future be rendered more certain and perfect, and conſequently become more advantageous to the community.

FROME, NOV. 1, 1799.

THE ART

OF

MAKING AND MANAGING CYDER.

APPLES.

THE art and induſtry of mankind have, for ſome centuries paſt, been ſeduloufly employed in procuring and propagating a variety of autumnal fruits in this country; but among them all, none is of ſuch vaſt importance (taken in its various general uſes and pleaſurable advantages) as the Apple. The eaſy means by which it is procured; the varietes of its flavour; the aptitude of its keeping ſound for many months longer than other fruits; and its applicability to the various uſes of all degrees of mankind, from the cottager to the prince, proclaim it the moſt uſeful and valuable fruit which this kingdom produces.

The following pages will be principally directed to the conſideration of its virtues in producing a wholeſome, vinous beverage, which, when used with rational moderation, tends to lighten the cares of mankind, and to heighten their friendſhips.

As

As apples are the ground-work of cyder, and as the cultivation of the ſuperior ſorts, and the conſequent excluſion of the inferior ones, may be of much future advantage to the public, it is preſumed that the introducing here a brief deſcription of ſome of the better ſpecies thereof will ſtand in no need of an apology.

The orchardiſts of Herefordſhire and Worceſterſhire have long been in the habit of propagating a variety of good cyder-fruits; among which the following ſeem to be the moſt valuable.

The *Red-ſtreak.* An apple of ſmall ſize, yellow about the pedicle, a light red-coloured ground about the upper part, thickly tinged with lake-coloured ſtreaks, ſlightly ſpotted with red within, of a ſharp acid flavour; makes very good cyder.

Hagloe Crab. Of a moderate ſize, yellow colour, ſharp taſte; makes good but not very rich cyder.

Old Quining. A large red apple, makes good cyder; but is getting out of uſe, as the tree is very ſubject to canker.

Bennet Apple. Streaked with red, of a pleaſant taſte, and makes a good ſecond-rate cyder.

Captain Nurſe's Kernel. Yellow, ſtreaked with red, of a mild acid flavour; makes light, pleaſant cyder.

Elton's Yellow. Of this apple there are two ſorts, the one to be met with *above* Hereford, and the other

other *below*; the former, of the ſhape and ſize of an orange, yellow on one ſide and red on the other, of a mild, pleaſant acid, and makes very good cyder; the latter is ſomewhat larger, and of a beautiful gold colour, ſharp to the taſte, and makes excellent cyder.

Normandy Apple. Under this name there are three ſorts; the yellow, the white, and the green, all of a bitter-ſweet taſte; which make rich cyder, of a high colour. The trees are ſaid to be moſt abundant bearers.*

Pauſon Apple. Large, of a yellowiſh green; makes a delicious cyder, of a beautiful colour.

Red Styre. Of a red colour, mild acid; makes good ſtout cyder.

Yellow or Foreſt Styre. Small, red on one ſide, and a fine yellow on the other, of a mild, pleaſant acid; and, in the opinion of many, makes the moſt excellent cyder. The tree, however, ſeldom thrives well, and is but a ſhy bearer.

Somerſetſhire produces a great variety of cyder apples, of which the following ought to be held in the higheſt eſtimation:

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* The writer hereof has been informed by a friend, whoſe veracity may be depended on, that thirty trees of this ſort, in the fifth year after grafting, produced five hogſheads of cyder of 110 gallons each.

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The *Jerſey*. Small, of a light red ground, with a variety of lake-coloured ſtreaks, moderately bitter; makes high-coloured cyder, which is ſluggiſh in its fermentation, and particularly ought to be made by itſelf.

White-Sour. Small, of a yellow ground lightly tinged towards the noſe with a light brown, and ſome ſtrong touches of brown near the ſtem; of an acid flavour, ſomewhat acrid, very juicy; and makes ſmart, palatable cyder.

Margill. Middle-ſized, yellow lightly tinged with red, pleaſant flavour; is a fine cyder fruit.

Vallis Apple. Large and handſome, finely tinged with red all over, ſweet in its flavour, very juicy; makes tolerable cyder.

Barn's-Door. Moderate ſize, brown towards the ſtem, the reſt part red, ſome red ſtreaks within, late in ripening, a pleaſant acid; makes very good cyder.

Crab Red-ſtreak. Small, greeniſh yellow on one ſide, light red on the other, with ſtrong red ſtreaks, of a pungent acid; and, under proper management, makes ſmart ſtout cyder.

Du-ann. Small, yellow near the ſtem, ſtrongly tinged with red towards the noſe, ſmart acid; makes good cyder.

Jack Every. Middle ſize, light yellow tinged with brown and red, ſweet flavour; makes tolerable cyder.

Cockagee. Yellow, ſpotted with red and brown, of a rough acrid flavour; makes very ſmart cyder under

under due management; but its fermentation being particularly volatile, it requires much attention ſoon after making.

Clark's primo. Middle ſize, of an orange colour on one ſide, red blotched with brown on the other, of a mild luſcious acid; makes rich cyder, and is alſo an excellent apple for the table.

Buckland. Small, yellow tinged with red, veined with red within; makes good cyder.

Pit-Crab. Small, dark red finely tinged with a lake colour within, ſmart acid; makes good cyder.

Slatter's Pearmain. Middle-ſize, yellow richly tinged with red and brown, delicious flavour, firm fleſh; makes excellent cyder; but hitherto has been more uſed at the table than at the preſs.

Slatter's No. 19. Long in its form, ground a yellow and light red, finely blotched with ſtrong red, moderately acrid; is a fine cyder fruit.

Slatter's No. 20. Yellowiſh ground tinged with red, ſmart acid flavour; makes very good cyder.

Slatter's No. 21. Tinged on the ſun-ſide with red and brown, very pleaſant flavour; and will undoubtedly be eſteemed as one of our beſt cyder-apples.*

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* The four laſt-named apples are new, the trees being lately raiſed from kernels by the gentleman whoſe name they bear, (Mr. Slatter, of Ilminſter, Somerſet) and whoſe orchards and cyder have long acquired a celebrity which others are not entitled to.

Caſtle-

Caſtle-Pippin. Greeniſh yellow, veined with brown and ſlightly tinged with red, a mild acid; and makes good ſecond-rate pale cyder.

Saw-Pit. Red throughout, acid flavour; and by ſome is eſteemed the beſt cyder-apple in the country.

Pomme Apis. Large, yellow, faintly tinged with red on the ſun ſide, broad at the ſtem, very juicy, ſmart but pleaſant acid; is undoubtedly a fine cyder-fruit.*

Devonſhire poſſeſſes many very valuable ſpecies of cyder-apples; from which the following are ſelected, as being the moſt celebrious.

Staverton Red-ſtreak. Whitiſh yellow at the ſtem, brown tinged with red towards the upper end, pungent acid; makes a ſmart but pale-coloured cyder. The tree a remarkably plentiful bearer.

Sweet Broady. Large and handſome, colour brown and red; makes good cyder, uſeful for mellowing that of the very acid fruits. The tree large and fine, and bears plentifully.

Lemon Bitter-Sweet. Yellow rind, hard and firm, a pleaſant bitter, and is by ſome eſteemed a fine cyder-apple.

Joſey. A handſome yellow, ſubject to ſpots of brown on the rind, of a mild acid taſte, very ſoon

* This apple is very little known in this country, having been brought from France but a few years, and the propagation thereof being confined to one or two nurſeries only.

after

after gathering perfects the ſaccharine fermentation; makes mild, pleaſant cyder, but not laſting. It is alſo a good table-fruit.

Orcheton Pippin. A very handſome apple, yellow on one ſide and red on the other; of a highly-pleaſant flavour, excellent for cyder, the table, and the kitchen; in point of general utility, perhaps, few apples are ſuperior.

Wine Apple. Greeniſh yellow ground, very thickly ſtreaked with red all over, pulp a little red, mild acid; is a very good cyder-fruit.

Mary-Gold Spice Apple. Yellow ground, light brown about the ſtem, highly and beautifully tinged with pink, mild acid, of a ſpicy reliſh; makes excellent cyder of a delicious flavour: it is a delicate fruit alſo for the table, and keeps long.

Ludbrook Red-ſtreak. Yellow ground finely tinged with pink, ſmart acid; and makes excellent cyder. The tree ſubject to canker.

Green Corniſh. Yellow with green ground lightly tinged with red, of a mild acid flavour, early ripe; and makes good cyder.

Butter-Box. Yellowiſh green tinged with light red, mild acid; makes pleaſant, but not laſting cyder.

Red Corniſh. Red nearly all over, of a mild acid; makes good cyder.

Broad-noſed Pippin. Large, rich yellow, mild acid; makes pleaſant, but not ſtrong cyder.

Cat's-Head.

Cat's-Head. Large, greeniſh yellow, pleaſant acid; makes good cyder.

Brandy Apple. Middling ſize, white, ſmart acid; makes pale-coloured friſky cyder.

Pine's Red-ſtreak. Very handſome, red all over except at the ſtem, flavour not ſo ſmart as the *Ludbrook*; but makes a cyder equally good.

Winter-Red. Dark red with ſome tinges of brown at the ſtem, criſp in its pulp, very juicy, of a ſmart ſpicy flavour, will keep until April, and is excellent both for cyder and the table.

Sweet Pomme-Roi. Yellowiſh green on the ſhade-ſide, and brown tinged with red on the ſun-ſide, of a luſcious flavour; is deemed a good cyder apple.

Bickley Red-ſtreak. A late fruit, greeniſh and yellow finely tinged with red, pulp firm, flavour ſomewhat acrid; is a moſt excellent cyder-apple.

Although the ſorts of apples above-deſcribed deſerve particular commendation as cyder-fruit, yet there are many others in each of the cyder counties, from which, under due management, not only tolerable, but good cyder might be made; but from the foregoing catalogue any nurſeryman will find ample choice to propagate from, in future.

It cannot but be obſerved, that names are given to apples arbitrarily, and which are by no means fully expreſſive of their qualities; but if there be a general characteriſtic of good cyder-fruit, it ſeems

to

to be this:—that the apple, which is of a yellow or light-red ground, tinged with red ſtreaks on the ſun ſide; of a ſmart acid flavour; with firm but juicy parenchyma, and of an aromatic flavour; be it called by what name ſoever it may, will doubtleſsly make good cyder.

It has been remarked by a writer of the preſent day, (—— Knight, eſq;) that the properties which conſtitute a good apple for cyder and the deſert, are ſeldom found in the ſame fruit.—The firmneſs of pulp which is eſſential in an eating-apple is uſeleſs in the cyder-fruit: and colour, which is diſregarded in the former, is amongſt the firſt qualities of the latter: ſome degree of aſtringency, which is injurious to the eating-fruit, is advantageous to the other.

GATHERING APPLES.

APPLES ſhould be thoroughly ripe ere they are taken from the tree, otherwiſe the cyder will be of a rough, harſh taſte, in ſpite of all endeavours.

The moſt certain indications of the ripeneſs of apples is the fragrance of their ſmell, and their ſpontaneouſly dropping from the trees. When they are in this ſtate of maturity, in a dry day, the limbs may be

ſlightly ſhaken, and partly diſburthened of their golden ſtore; thus taking ſuch apples only as are ripe, and leaving the unripe longer on the trees, that they may alſo require a due degree of maturity. It may not be amiſs to make three gatherings of the crop, keeping each by itſelf. The latter gathering (as well as wind-falls) can only be employed in making inferior cyder: the prime cyder will be drawn from the former gatherings.

That cyderiſt who would be particularly curious in his prime liquor, will doubtleſsly hand-gather his fruit, and keep the ſorts ſeparate one from another: but as this would be troubleſome, expenſive, and in a full ſeaſon wholly impracticable, the general crop may, at different times, be ſhaken down, and collected from the ground.

Fruit of equal ripeneſs, and whoſe qualities are nearly alike, may be heaped together, to meliorate their juices, or, in other words, to perfect the ſaccharine fermentation.—How this is beſt done, cyder-makers are not agreed: ſome judging it altogether unneceſſary to heap them at all, if ſufficient time be allowed for perfecting the ſaccharine fermentation on the tree:—ſome conſidering it beſt to ſweat them in cloſe lofts:—whilſt others alledge, that the open air is the only place where they ought to be heaped.

Experience, however, ſhould teach us, that moſt apples require time for their being mellowed, to attain

attain their higheſt flavour; and until this mellowing be perfected, their juices are not in the beſt ſtate for being converted to cyder.

Philoſophers well know, that fermentation is never improved by haſtening the operation with too much heat; nor perfected in due time under too great an expoſure to cold. It would be well, therefore, if apples, when gathered from the tree, were placed in open ſheds, having boarded floors, in heaps or layers, of ten or twelve inches deep;* the ſorts to be kept ſeparate, as much as the conveniences of the ſheds will allow:—at any rate, if there muſt be a mixture of apples in the ſame heap, let them be ſuch as are of qualities nearly alike, and which are of equal ripeneſs at the time of gathering; but on no account ſhould ſweet and ſour fruit be heaped together.—To ſome cyderiſts it might have appeared unneceſſary to keep the different ſorts of apples ſeparate; but it is of importance ſo to do; and the trouble thereof is very little, compared to the advantages which will hereafter reſult from a regular fermentation of the juices.

Surely, the impropriety of houſing and laying apples in very large heaps muſt be manifeſt to every thinking mind; more eſpecially when in the ſame room are found all ſorts; ſweet, ſour, harſh, gene-

* The hard and harſh fruits may be lain in heaps of greater depth.

rous;

rous, ripe and unripe, thrown promiſcuouſly together; where ſome are rotten ere others are mellowed.—And what muſt the liquor be which is expreſſed from ſuch an heterogeneous maſs!

But let us now ſuppoſe, that the fruit, which is of different ſorts and qualities, has been kept ſeparate from one another a few weeks; it will be perceived, that ſome of the prime ſorts are in a proper ſtate of maturation; that the pulp has acquired its higheſt degree of richneſs; the kernels aſſumed their browneſt colour; the rind ſtill free from any appearance of rottenneſs; and that they readily yield to the preſſure of the thumb;—then is the time, and ſuch is the fruit to be employed in making prime cyder:—Every neceſſary utenſil muſt now be ſet in order: the mill, preſs, tubs, caſks, pails and bowls, clean waſhed, and ſuffered to dry before they are uſed.

GRINDING, &c.

SEVERAL Methods are practiſed for converting apples to pommage; but the two moſt chiefly in uſe are, the bruiſing-ſtone with a circular trough; and the apple-mill. In the trough, the apples are thrown and bruiſed by the motion of the ſtone, as

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it is moved round by a horſe, in the way that tanners grind bark. This is an ancient method, and ſtill in uſe in ſome parts of Devonſhire; and although it has its inconveniences, in bruiſing ſome apples too much and ſome too little, it is not without its advocates in thoſe parts of the country; who alledge, that it bruiſes the kernels of the fruit better than other machines—Although it muſt be admitted, that the kernels poſſeſs an agreeable aromatic bitter, yet it has been held queſtionable if they impart any perceivable beneficial quality to the cyder. Be this as it may, certain it is, that this method of converting apples to pommage by the trough and ſtone has, in the laſt fifty years, much given way to the *Apple-mill.*

Of this latter machine there are various conſtructions; ſome being worked by hand, ſome by horſes, and others by water. Whichever of the powers be employed, the beſt internal conſtruction of a mill ſeems to be that which has two pair of rollers; the upper pair being ſtuck with *coggs* and *dags*, and the under pair, being of very hard wood, turned ſmooth, and worked with coggs only. The upper rollers grinding the apples to a coarſe pommage, and the under ones ſqueezing it to what it ought to be—a very fine pulp.

There are alſo *Cyder-preſſes* of various conſtructions; ſome being compounded of a bed, and heavy cumberous piece of timber called a *ſummer*, which

is generally worked with a lever and capſtain. Others, inſtead of the ſummer, are conſtructed with a ſingle, but large, wood ſcrew. This conſtruction has for ſome years been ſuperſeded by another ſort, which has two iron ſcrews, like that which cloth-workers uſe in preſſing cloth. There is alſo another, of modern conſtruction, ſuperior to the others, which works a ſummer-piece by means of a winch and caſt-iron wheels and pinions. This conſtruction is yet little in uſe: but it is not unlikely, that when it is generally known, that one hand at the winch will give a ſufficient preſſure to a cyder-cheeſe, it will be particularly ſought after.

Cyderiſts have not agreed in opinion, whether the pommage ſhould immediately after grinding be conveyed to the preſs, there to be formed into what is called the *cheeſe*; or whether it ſhould remain ſome time in that ſtate before preſſing. Some ſay it ſhould be preſſed immediately after grinding; others conceive it beſt to ſuffer it to remain in the grinding trough, or in vats employed for the purpoſe, for twenty-four hours, or even two days, that it may acquire not only a redneſs of colour, but alſo that it may form an extract with the rind and kernels. Both extremes are wrong.

There is an analogy between the making of cyder from apples, and wine from grapes: and the method which the wine-maker purſues ought to be followed

by

by the cyder-maker. When the pulp of the grapes has lain ſome time in the vats, the vintager thruſts his hand into the pulp, and takes ſome from the middle of the maſs; and when he perceives, by the ſmell, that the luſcious ſweetneſs is gone off, and that his noſe is affected with a ſlight piquancy, he immediately carries it to the preſs, and by a light preſſure expreſſes his prime juice. In like manner ſhould the Cyderiſt determine the time when his pulp ſhould be carried to the preſs. If he carry it thither immediately from the mill to the preſs, he might loſe ſome ſmall advantage which may be expected from the rind and kernels, and his liquor may be of lower colour than he might wiſh. If he ſuffer it to remain too long unpreſſed, he will find, to his coſt, that the acetous fermentation (hereafter to be ſpoken of) will come on, before the vinous is perfected; eſpecially in the early part of the cyder-making ſeaſon.—He will generally find that his pulp is in a fit ſtate for preſſing in about twelve or ſixteen hours.—If he muſt, of neceſſity, keep it in that ſtate longer, he will find a ſenſible heat therein, which will engender a premature fermentation; and he muſt not delay turning it over, thereby to expoſe the middle of the maſs to the influence of the atmoſphere.

The pommage being now in a proper ſtate, it is carried to the preſs, and a ſquare cheeſe made thereof, by placing very clean ſweet ſtraw or reed be-

tween

tween the various layers of pommage; or elſe by putting the ſame into hair-cloths, and placing them one on another.* To this cheeſe, after ſtanding awhile, a ſlight preſſure is at firſt to be given, which muſt be gradually increaſed, until all the *muſt* or juice is expreſſed:—after which, this juice muſt be ſtrained through a coarſe hair ſieve, to keep back the groſs feculencies of the juice, and be put into proper veſſels.

Theſe veſſels may be either open vats or cloſe caſks; but as, in the time of a plentiful crop of apples, a number of open vats may by the Cyderiſt be conſidered an incumbrance in his cyder-rooms, the *muſt* is generally carried immediately from the preſs to the caſk.

Thus far cyder-making is a mere manual operation, performed with very little ſkill in the operator; but now it is when the great art of making *good cyder* commences:—Nature ſoon begins to work a wonderful change in this foul-looking, turbid, fulſome, and unwholeſome fluid; and, by the ſingle proceſs of *fermentation* alone, converts it into a wholeſome, vinous, ſalubrious, heart-cheering beverage.

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* It is of importance, that the ſtraw or reed be ſweet and perfectly free from any fuſtineſs, leſt the cyder be impregnated therewith.—Particular care ought alſo to be taken to keep hair-cloths ſweet, by frequently waſhing and drying; elſe the ill effects of their acidity will be communicated to the cyder.

FERMENTATION.

PHILOSOPHERS inform us, and experience juſtifies the poſition, that the juices of all vegetables, when expoſed to certain degrees of heat and atmoſpheric influence, are diſpoſed by nature to a ſpontaneous inteſtine motion of their conſtituent parts:—this inteſtine motion is called *fermentation.*

This principle is, in a thouſand inſtances, evident to the ſenſes; yet the firſt cauſe, or original ſource thereof, the human underſtanding has as imperfect a conception of, as it has of attraction or any other of the arcana of nature, which are to remain among the myſteries of created matter to the end of time.—Yet from what we know of it, by its effects, we may derive no ſmall advantage to ourſelves, if we duly attend to the regular operations thereof.

Cyder, and all other fermentable liquors, in the preciſe chemical notion of them, conſiſt of ſaline, mucilagenous, and oleagenous matter, diluted with a large portion of water:—by the water the other parts are ſet at a diſtance from one another; the ſaline ones are interſperſed among the ſubtile earthy ones, which make the ſlimeneſs; and they, together, imbibe, detain, entangle, and attract the groſſer oily parts:—beſides which, there are oily parts ſtill more ſubtile,

that

that by means of the highly-attenuated ſaline portion adhering to them, remain as much connected with the water as the reſt: and theſe are what are called the ſpirituous part. The action and eſſence of fermentation is a ſeparation and deſtruction of the former connexion of theſe principles in the fermenting ſubject, and the tranſpoſing them anew.

It is well known, that there are various ſtages of fermentation in the juices of all vegetables, each of which changes the very nature and quality of the fluid; but the principal which are to be particularly attended to, in the inſtance now under conſideration, (the *muſt*, or juice of apples) are three; namely, the *vinous*, the *acetous*, and the *putrefactive*. The firſt converts the *muſt* from its turbid, fulſome ſtate, to a tranſparent ſpirituous liquor, lightly piquant on the palate, reſembling wine both in its flavour and effects. If the juice be expreſſed from *ſour* apples, this fermentation is perfected in two or three days; but if from *ſweet* apples, not under a week or ten days, or longer.—The next ſtage of fermentation gives an acidity to the vinous liquor before ſpoken of, converting it to a ſort of vinegar. This fermentation begins ſoon (frequently in a few hours) after the vinous is ended; and if the fermentation be improperly haſtened by heat, *before* the vinous can be perfected.—The third (and all ſucceeding fermentations) diſengages an alkali from the liquor, and gives it a tendency to putrefaction.

Although

Although we cannot form any clear and diſtinct knowledge of the preciſe manner in which nature performs theſe changes in fermenting liquors, yet the effects are evident; and from a conſideration of the different natures and effects of the various fermentations, it may be perceived, that the *firſt* is the only one uſeful in making good cyder; and that the others tend to vitiate, and render unwholſome, a liquor that otherwiſe would be highly pleaſant and truly ſalubrious. To regulate the firſt, and to check the others, is then the great buſineſs of that cyder-maker, who would attach to himſelf the ſatisfaction and fame which every one is emulous of.—Let us therefore conſider how theſe ends are beſt attained.

Fermentations ſhould not, by too much heat, be carried on rapidly; nor, by extreme cold, too ſlowly; as in each caſe the fermenting body will be injured.* Hence it appears, that a certain degree of warmth, or rather imperceptible heat, conduces beſt to regulate this operation. This degree of warmth may be underſtood to reſt between forty and fifty degrees of Farenheit's thermometer. If then the warmth of the cellar, in which new-made cyder is placed, be between theſe points, (no adventitious cauſe in-

* Too great heat, ſays STAHL, is the bane of all vinous fermentation; and extreme cold repreſſes it:—and MACQUER tells us, that if fermentation be ſlow and tedious, the liquor cannot be good.

tervening)

tervening) we may expect that the vinous fermentation will commence and go on with due regularity.

It has been obſerved above, that fermentation is an inteſtine motion of the parts of a fermentable body;—this motion, in the preſent caſe, is always accompanied with an evident ebullition; the bubbles riſing to the ſurface, and, there, forming a ſcum, or ſoft and ſpongy cruſt, over the whole liquor. This cruſt is frequently raiſed and broken by the air as it diſengages itſelf from the liquor, and forces its way through it. This effect continues whilſt the fermentation is briſk, but at laſt gradually ceaſes: the liquor now appears tolerably clear to the eye, and has a piquant, vinous ſharpneſs upon the tongue.*

Now is the critical moment which the Cyderiſt muſt not loſe ſight of; for if he would have a ſtrong, generous, and pleaſant liquor, all further ſenſible fermentation muſt be ſtopt. This is beſt done by racking off the pure part into open veſſels, which muſt be placed in a more cool ſituation for a day or two:† after which it may again be barrelled and placed in

* If in this ſtate the leaſt hiſſing noiſe be heard in the fermenting liquor, the room is too warm; and atmoſpheric air muſt be let in, at the doors and windows.

† The Herefordſhire cyder-farmers, after the cyder has perfected its vinous fermentation, place their caſks of cyder in open ſheds throughout the winter; and when the ſpring advances, give the laſt racking, and then cellar it.

ſome

ſome moderately-cool ſituation for the winter.* In this ſituation the cyder will, in courſe of time, by a ſort of inſenſible fermentation, drop the remainder of its groſs lees, become tranſparent, highly vinous and fragrant. But ſhould the Cyder-maker neglect theſe precautions, the inevitable conſequence will be this—another fermentation will quickly ſucceed, and convert the fine vinous liquor he was poſſeſſed of into a ſort of *vinegar;* and all the art he is maſter of will never reſtore it to its former richneſs and purity.

CHECKING

IMPROPER FERMENTATION.

IT is poſſible, however, that a variety of avocations at the ſeaſon of cyder-making, may take off too much of the farmer's attention from this branch of œconomics, and give opportunity to the acetous

* In racking, it is adviſable that the ſtream from the racking-cock be ſmall, and that the receiving-tub be but a ſmall depth below the cock; leſt, by exciting a violent motion of the parts of the liquor, another fermentation be brought up. The feculence of the cyder may be ſtrained through a filtering-bag, and placed among the ſecond-rate cyders; but by no means ſhould it be returned to the prime cyder.

fermentation

fermentation to come on, ere he is aware of it.—What remedy (it may be aſked) has he to prevent the ill effects thereof running to their full extent?—Several have been tried; ſometimes with a degree of ſucceſs, at other times wholly unavailable; the moſt popular ones are the following:—A bottle of French brandy; half a gallon of ſpirit, extracted from the lees of cyder; or a pail-full of old cyder, poured into the hogſhead, ſoon after the acetous fermentation is begun: but no wonder if all theſe ſhould fail, if the cyder be ſtill continued in a cloſe, warm cellar. To give effect to either, it is neceſſary that the liquor be as much expoſed to a cooler air as conveniently may be, and that for a conſiderable length of time. By ſuch means, it is poſſible fermentation may, in a great meaſure, be repreſſed: and if a caſk of *prime* cyder cannot from thence be obtained, a caſk of *tolerable*, ſecond-rate cyder may. Theſe remedies are innocent; but if the farmer or Cyder-merchant attempt to cover the accident, occaſioned by negligence or inattention, by applying *any preparation of lead*, let him reflect, *that he is about to commit an abſolute and unqualified murder on thoſe whoſe hap it may be to drink his poiſonous draught.*

Should, however, any one be wicked enough to ſophiſticate a caſk of cyder with any calxes of lead, his villainy may be detected in the following manner: Make a decoction of orpiment in lime-water, drop

a ſmall quantity thereof into a glaſs of ſuſpected cyder, and if it has been impregnated with any preparation of lead, its colour will ſoon change to a brown, dirty-red, or black; but if it be genuine, its colour will remain nearly the ſame.—Some liquid liver of ſulphur, dropped into a glaſs of ſophiſticated cyder, will have a ſimilar effect.—Biſhop WATSON directs us to boil together, in a pint of water, an ounce of quick-lime, and half an ounce of flowers of brimſtone; a few drops of this liquor, being let fall into a glaſs of cyder containing lead, will change the whole into a colour more or leſs brown.*

"Calxes of lead," ſays Macquer, "having the "property of ſtopping fermentation, might be em- "ployed in remedying the acidity of wine, *if lead and* "*all its preparations were not pernicious to health;* "but they occaſion moſt terrible cholics, and even "DEATH, when taken internally." The ſame writer tells us, that even wine may be preſerved in the ſame ſtate by penetrating it with *ſulphureous acid;*—from whence we may infer, that the *ſtumming* a cyder-caſk may, at certain ſeaſons, be highly beneficial. *Stumming* is a provincial phraſe, ſignifying the *fuming* a caſk with burning ſulphur, and is thus performed: Take a ſtrip of canvas cloth, about twelve inches long and two broad; let it be dipped into melted

* Chemical Eſſays, vol. iii, p. 371.

brimſtone.

brimſtone. When this match is dry, let it be lighted, and ſuſpended from the bung of a caſk (in which there are a few gallons of cyder) until it be burnt out: the caſk muſt remain ſtopped for an hour or more, and then rolled to and fro, to incorporate the fumes of the match with the cyder; after which it may be filled. If the ſtumming be deſigned only to ſuppreſs ſome ſlight, improper fermentation, the brimſtone match is ſufficient; but if it be required to give any additional flavour to the cyder, ſome powdered ginger, cloves, or cinnamon, &c. may be ſtrewed on the match when it is made;—the burning theſe ingredients with the ſulphur will convey ſomewhat of their fragrance to the whole caſk of cyder; but to do it to the beſt advantage, it muſt be performed *as ſoon* as the vinous fermentation is fully perfected.

FINAL RACKING, &c.

LET us hope, however, that the Cyderiſt has ſucceeded in obtaining a favourable *vinous fermentation*; and that, by a well-timed racking and attention, he has prevented the acetous and other ſucceeding fermentations from riſing; his cyder will then require very

very little further attention, more than filling up the veſſels every two or three weeks, to ſupply the waſte by the inſenſible fermentation, until the beginning of the next March; at which time it may be reaſonably expected he will find his cyder bright and pure, and in a fit ſtate for its final *racking*. This ſhould be done in fair weather; and, if neceſſary, a commixture ſhould now be made of the high-coloured cyder made from the Jerſey, or the luſcious ſweet apples, with that of the pale-coloured cyder from the poorer ſour apples. By which means a general, regular colouring may be obtained with the leaſt trouble, and without expence.

Although it may be expected that the Cyderiſt will now find his liquor to his mind, both in point of brightneſs and colour, yet ſhould he be diſappointed, the time now is for applying ſome innocent remedy to remove the diſorders.

I ſhall not recommend to him either of the *forces* commonly uſed for fining liquors, namely, bullock's-blood, iſinglaſs, eggs, &c. for they as frequently *ſpoil* a caſk of cyder as *improve* it; but if he will put two pounds of lump ſugar into a hogſhead of cyder, he will receive all the benefit which may be expected from the moſt nauſeous force which naſtineſs can employ.

If higher colour in cyder be deſired than what his fruit naturally gives under the foregoing management,

ment, the Cyderiſt will do well to melt a pound of lump ſugar in a ſtewpan, over a clear fire, ſtirring it frequently, until it comes to a very dark-brown colour: then to take it off the fire, and as it cools, add ſome cyder thereto by little and little, and continue ſtirring it until it becomes a thin uniform fluid. This colouring (about a pint more or leſs, as occaſion may require, to a hogſhead) is very cheap and wholſome, tinges to perfection, gives no luſcious ſweetneſs, (but rather an agreeable bitterneſs) and thus recommends itſelf to the nicer palates.

Soon after this ſpring racking (and not till then) the caſks may be gradually ſtopped, by firſt laying the cork on the bung-hole, and in a few days forcing it very tightly into it, covering it over with a layer of melted roſin.

BOTTLING.

IN the following month the cyder, in general, will be in a fit ſtate for bottling; but the critical time of this proceſs is when the liquor has acquired in the caſk its higheſt degree of perfection; then, when the weather is fair, the barometer high, and the wind in ſome northerly point, let the bottles be filled,

ſetting

ſetting them by uncorked, until the morrow; then let the corks be driven very tightly into the necks of the bottles, tied down with ſmall ſtrong twine or wire, and well ſecured with melted roſin.

By the month of July following the Cyderiſt will find himſelf poſſeſſed of a grateful, lively, ſparkling, and exhilerating liquor; "highly delicious to the "palate, and congenial to the human conſtitution," fit for Princes and the beſt of their Subjects to regale themſelves with.

Cruttwell, Printer, Bath.